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MAY 3 1965
Texas Forest Service

P 6.355 APRIL 1965

AERIAL SURVEY OF SOUTHERN PINE BEETLE INFESTATIONS IN SOUTHEAST TEXAS

by

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INTRODUCTION

An operations recorder survey was conducted by the Texas Forest Service to determine the distribution and degree of southern pine beetle infestations in southeast Texas (figure 1). The aerial phase was made March 22 and April 2 and 7-10, 1965. The period usually required to fly the area was extended because of the limited number of clear days. Ground-checks were made March 23 and April 13-15, 20-23, and 26-27.

The survey showed that beetle populations were slightly lower than in January of this year and slightly lower than found March, 1964. Control operations have been in progress since mid-February.

SURVEY METHODS

The survey method used was the same as that used for previous surveys of this type in southeast Texas. Assistance in training Texas Forest Service personnel to perform the surveys was given by the Forest Insect and Disease Control Branch, U. S. Forest Service, Alexandria, Louisiana This survey was designed, conducted and analyzed in accordance with "Operations Recorder Survey Plan for Pine Bark Beetles" (1).

RESULTS

A total of 40 flight lines were flown on this survey. Approximately 4 red or fading trees per thousand acres were observed (table 1) which was about the same as found in January 1965. Seventy-six spots were ground checked, and 18 active southern pine beetle spots - containing a total of 26 infested trees - were found. This shows that over the 2,000,000 acres surveyed 2,800 brood trees were present at the time the survey was conducted. Twenty trees were found which had been attacked by southern pine beetles but were inactive. Most of the remaining spots contained Ips and black turpentine beetles.

TABLE 1.--Summary of data southeast Texas
southern pine beetle surve:, April 19.5
(Confidence limits of 90 percent)

	PER M ACRES
No. of spots	3.96 ± .77
No. of reds and faders	4.23 ± .84
No. of southern pine beetle infested trees	1 4 ± .63

DISCUSSION AND SUMMARY

Although the number of red-topped and fading trees remained almost the same as in January of this year, the number of active southern pine beetle infested trees decreased from 2.05 in January to 1.4. However the number of inactive southern pine beetle trees located was only six less than the number of active infested trees found. The possibility exists that recently emerged beetles are dispersing and attacking trees in nearby areas where higher populations are presentl known. This substantiated by the fact that during this survey, green infested spots were being found that were not visible to aerial observers. Also, the number of new infestations located on detection flights conducted by the Texas Forest Service has increased since the aerial phase of this survey was completed.

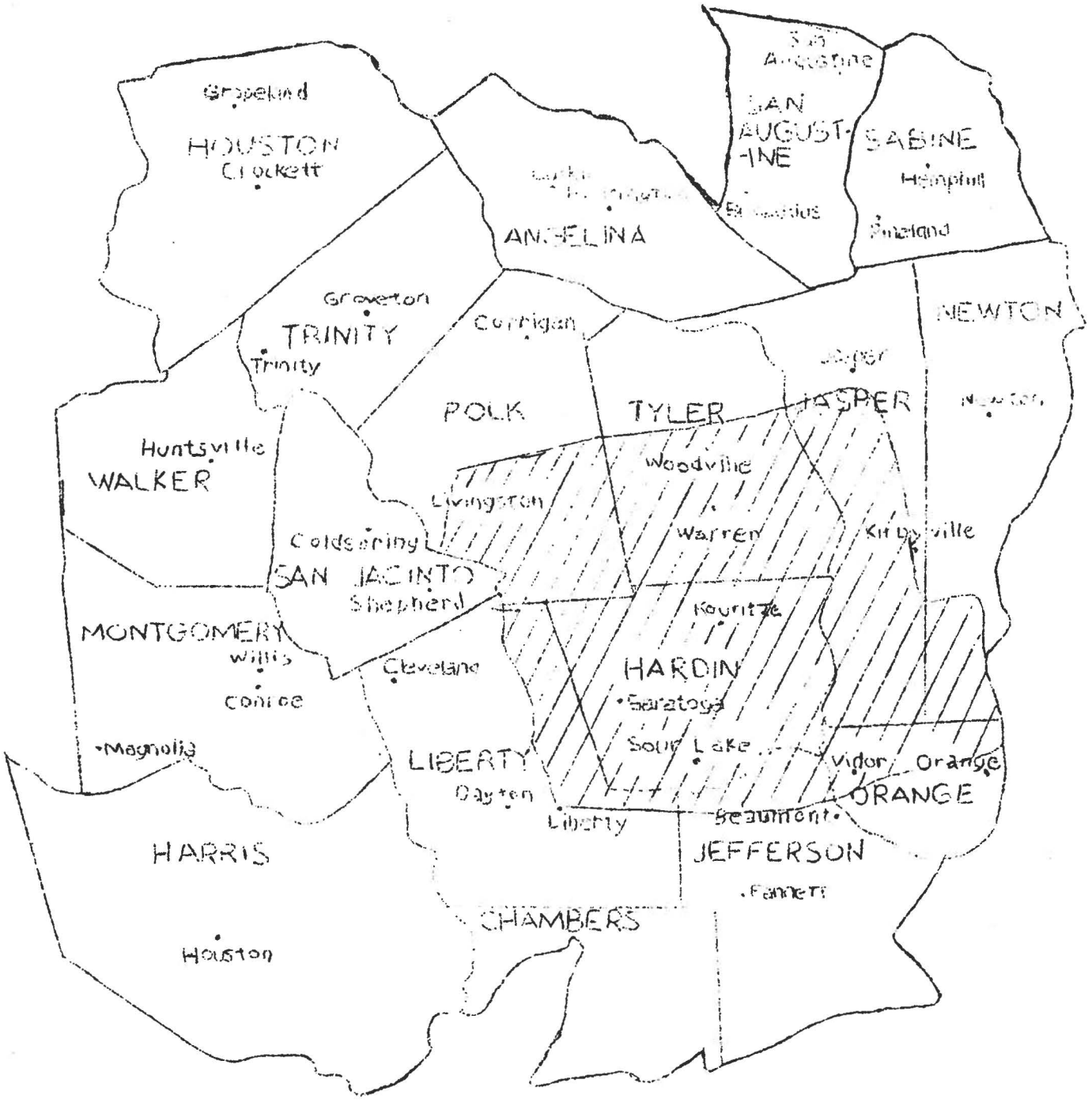
Control operations must be continued to reduce population buildup. Increased beetle activity will occur this summer.

RECOMMENDATIONS

1. Detection flights for control operations should be continued on a biweekly basis.

2. Control operations, in accordance with control procedures recommended by the Texas Forest Service, should be continued to control all known infestations promptly.

3. Another operations recorder survey should be made by the Texas Forest Service in June 1965 to determine trend of current infestations.



SOUTHEAST TEXAS

Figure 1. Location of operations recorder survey for southern pine beetle in southeast Texas.